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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/411,521 10/04/99 KOSHKARIAN

K 98-639

EXAMINER

QM02/0921

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JEFFERY, J

ART UNIT

PAPER NUMBER

3742  
DATE MAILED:

09/21/01

12

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/4/521

Applicant(s)

Koshkarian

Examiner

Jeffery

Group Art Unit

3742

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 9/4/01
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 3, 4, 6, 7, 9, 11-13 & 24-28 is/are pending in the application.
- Of the above claim(s) 3, 4, 6, 7, 9, & 11-13 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 24-28 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 9 ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

Office Action Summary

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

The following is a quotation of 35 USC 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 24, 25, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Komatsu (US4713302) or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Komatsu (US4713302). Komatsu (US4713302) discloses a sintered ceramic body adapted for use as an engine component. See Col. 1, lines 10-11. According to Col. 1, lines 40-48, the ceramic is a SiN body with a surface layer containing yttrium silicate having a thickness of  $1\mu$  -  $100\mu$ . Therefore, the thickness values claimed (i.e., "in the range of about 1.0 microns and less than 5.0 microns") are contemplated and fully met by the coating thickness range disclosed by Komatsu (US4713302) ( $1\mu$  -  $100\mu$ ). While Komatsu (US4713302) is silent regarding its corrosion resistance, by virtue of its coating, the engine component disclosed by Komatsu (US4713302) would inherently exhibit an enhanced corrosion resistance while not significantly affecting its thermal

characteristics. It is well settled that the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). See also MPEP § 2112. If such inherency is disputed, then the enhanced corrosion resistance provided by the coating would have been obvious to one of ordinary skill in the art given the known corrosion resistance advantages of such coated ceramics.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu (US4713302) in view of Watanabe et al (US5118644). The claims differ from the previously cited prior art in calling for the coating to be a ytterbium silicate coating. While the coating of Komatsu (US4713302) is disclosed as a yttrium silicate coating, the use of ytterbium silicate coatings for SiN ceramic components are known in the art as shown by Watanabe et al (US5118644) noting Col. 4, lines 20-28, Col. 10, lines 19-25, and Col. 3, lines 55-59. Moreover, no criticality is seen in the use of ytterbium silicate coatings as compared with yttrium silicate coatings in view of the ultimate similar characteristics imparted to the ceramic component. In view of Watanabe et al (US5118644), it would have been obvious to one of ordinary skill in the art to use a ytterbium silicate coating in lieu of the yttrium silicate coating in view of the non-criticality of the use of either material to one of ordinary skill in the art.

Claim 28 is rejected under 35 U.S.C. 103 as being unpatentable over Kamatsu (US4713302) in view of Koshkarian et al (US5578349). The claims differ from the previously cited prior art in calling for a glow plug. The use of silicon nitride as a main glow plug material is well known in the art as shown by Koshkarian et al (US5578349) wherein the material is used due to its ability to withstand elevated temperatures and thermal shock resistance. Furthermore, the general use of silicon nitride materials for glow plugs is conventional in the art. In view of Koshkarian et al (US5578349), it would have been obvious to one of ordinary skill in the art to incorporate the teachings of coating the silicon nitride material with a rare earth silicate coating in a glow plug in order to increase the corrosion resistance of the glow plug.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koshkarian et al in view of Kamatsu. Koshkarian et al (US5578349) discloses a silicon nitride glow plug with a protective coating thereon with a thickness of 1-5  $\mu\text{m}$  for corrosion protection. The claims differ from the previously cited prior art in calling for the protective coating to be a rare earth silicate coating. Providing a rare earth silicate coating on a silicon nitride ceramic is conventional and well known in the art as evidenced by Kamatsu (US4713302) in Col. 1, lines 40-48 wherein a silicon nitride ceramic is coated with a rare earth silicate coating to

increase mechanical strength. In view of Kamatsu (US4713302), it would have been obvious to one of ordinary skill in the art to provide a rare earth silicate coating in lieu of the coating disclosed by Koshkarian et al (US5578349) so that a thinner protective coating is used and fabricated by merely oxidizing the surface thereof, thereby simplifying manufacture.

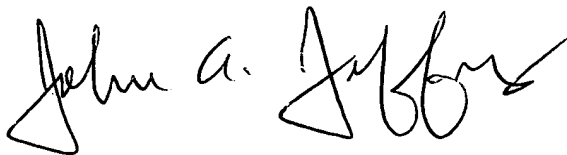
Applicant's arguments have been considered but are deemed to be moot in view of the new grounds of rejection.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO A FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this or earlier communications from the examiner should be directed to John A. Jeffery at telephone number (703) 306-4601 or fax (703) 305-3463. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM EST. The examiner can also be reached on alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read "John A. Jeffery", with a stylized flourish at the end.

**JOHN A. JEFFERY  
PRIMARY EXAMINER**

9/20/01